

WARNING - Weed Alert

Florida Department of Natural Resources

Water Spinach (*Ipomoea aquatica*)

This aquatic plant species is prohibited by federal and state laws. Possession of Chinese water spinach is a second degree misdemeanor, and may be punishable by a \$500 fine and/or 60 days in jail. For more information, please call 904/488-5631.



Luật liên bang Hoa Kỳ và tiểu bang Florida cấm trong cây rau muống. Vi phạm luật cấm trong rau muống sẽ bị trung phạt tiền \$500 hoặc 60 ngày tù hoặc cả hai. Muốn biết thêm chi tiết xin gọi! then thoại số 904/488-5631.

Distinctive field characteristics include:

- 1) pink to white morning-glory like flowers with purple throat,
- 2) hollow stems with alternate triangular or lanceolate leaves that grow vine-like along ditch banks, expanding into surface waters,
- 3) a single leaf and root system at each node,
- 4) and leaf blades measuring up to seven inches (18 cm) in length.

Chinese water spinach (*Ipomoea aquatica*) is an annual or perennial fast-growing herb with smooth, succulent, hollow stems that root at the nodes in wet ground. A native of south-east Asia, this popular green vegetable is cultivated in China, Indian, Malaysia, Africa, Brazil, the West Indies, and central America. Due to its prolific growth, this species has great potential to invade moist cultivated areas, such as rice and sugar cane fields, and other areas with varying water levels, such as the Everglades and drainage canals and ditches. Chinese water spinach is grown illegally in Florida as an oriental food vegetable and has numerous regional ethnic names: kangkong, ung, choy, ong-tsoi, tung sum tsoi (China, Taiwan, Hong Kong); Kankoong (Java); tangkong, cancong, balangog (Philippines); rau muong (Vietnam); phakbong (Laos); tra kuon (Cambodia); Kalamisag, karmi, nali (India); batatilla acuatica, batilla de puerco (Latin America); and is also called Chinese morning-glory, swamp morning glory, water convolvulus, or bind weed plant.

This plant thrives on moist soil and in aquatic habitats. The stems of water spinach can also survive submersed. In Florida, it is found to be floating and creeping horizontally for long distances within drainage canals.



A single plant of Chinese water spinach may grow to over 70 feet (22 m) and can branch profusely. The plant can reproduce vegetatively and/or sexually. The vine-like stem of this species produces roots at each node and each nodal root segment may produce a new plant. Much fragmentation results from harvesting by humans and wildlife. In India, flowering begins in late October and continues through early April. One fruiting body per flower is produced. Each fruit capsule may contain 1-4 small

sparsely pubescent seeds. Seeds are able to tolerate temperatures below freezing for a short period of time. Since percent seed germination is low under water, vegetative spreading and fragmenting are the primary means of reproduction. Under optimal conditions in Hong Kong, annual yields of Chinese water spinach can reach 40 tons/acres (90 metric tons/ha) per season). In a Department of Natural Resources greenhouse, the plant grew four inches (16 cm) per day after fertilization.

In south and central Florida, the seasonal rainfall and consequent rise in water level during the summer months provides optimum climatic conditions for the growth of Chinese water spinach. Additionally, the multiple rooting of modal fragments and prolific growth allow this species to rapidly infest new areas during the summer season. Declining water levels during the late fall and winter in south Florida provides optimum conditions for flowering and seed production.

The public and water resource managers should be aware that Chinese water spinach represents a significant threat to our waterways, particularly in sub-tropical south Florida. This plant is prohibited by the state, and is listed as a federal noxious weed species. Please report any suspected infestations or cultivations to the Florida Department of Natural Resources, Bureau of Aquatic Plant Management, 2051 E. Dirac Drive, Tallahassee, Florida 32310, telephone (904) 488-5631.